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3. Abbassabad Area

- (a) Occurrence of Ore
Ore occurs and was being mined in about 25 locations over a strike length of 250 kilometers. The ore outcrops along the sides and on the crests of folded hills. There is no vegetation and the serpentine can be seen from long distances on the sides of the bare rocky hills. The ore contact is very sharp against the enclosing serpentine.
- (b) Reserves
The tonnage of each deposit is not large. For example, I estimated that Area 2 had 300,000 tons, Area 3, 150,000 tons, Area 4, 100,000 tons. The lenses themselves are fairly large for chrome lenses. They run from 5,000 to 25,000 tons each.
- (c) Mining Methods
The mining is all open pit and the mining methods are very crude. Holes are drilled by hand, a small amount of explosive is used and the ore buried down, loaded by hand onto small trucks or horses and hauled to a central gathering place. The ore is hard, remarkably clean with the only contamination from serpentine at the edges of the deposits. Practically no sorting is necessary. At the gathering places the ore is loaded into five ton trucks and hauled to Shahrud where it is loaded into gondolas for the 1600 kilometer railroad trip to shipside at Khorramshahr. All mining and transport is done by contract.
- (d) Capacity
The area can produce 3,000 tons of ore per month with the 300 men working at present under crude conditions and with present equipment. This rate could be materially increased by proper mining guidance, the purchase of compressors, drills, loading machinery, small trucks for gathering and large trucks for hauling. The completion of the railroad to Mashad would place every deposit within 7 to 15 kms of a railroad.
- (e) Grade of Ore
The ore is 50% lump. The following are analyses of 1000 ton shipments and illustrate the high grade of the ore. As mentioned, these represent average run of mine ore as no sorting except at the edges of the deposit is required.

Analyses of Iranian Chrome Ore - Abbassabad Area

Cr ₂ O ₃	51.37	52.81
Fe O	40.57	43.46
Mg O	17.57	17.00
Al ₂ O ₃	9.17	9.52
SiO ₂	5.63	4.54
CaOFe	3.33%	3.45:1

(f) Operating Companies

the Iran Chromite Company with head offices at Namari Bldg., Saadi Avenue, Teheran. Rexar Bros., of which Ali Rexar is the business head and Maumud /T/ Rexar is the mine operator. A Mr. Almadi has an interest in all three of the companies. He is the editor and owner of "Dad" the principal newspaper in Teheran. His wife's brother is principal assistant to the present Prime Minister.

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(g) Transportation Costs

The ore sells for \$40 US - FOB ship Iran; the shipping rate to US\$11; the trucking rate from the area to Shahroud was \$5 per MT, and the freight rate to the port only \$4 per ton. The miners and loaders make about the equivalent of \$1 per day.

4. Esfrandaghd Area

- (a) I did not visit the Esfrandaghd area but was told that the ore lenses were about the same character as those in the Abbassabad Area. The ore shipped was very similar.
- (b) The mining methods are similar; open pit, hand mining. Shipping is by truck to Bandar-Abbass where it is hand loaded into lighters by men and women stevedores. Due to the terrific heat and high humidity, loading rate from June to September is only 300 MTs per day but at the time I left Iran in December they were loading 500 MTs per day.
- (c) The grade of ore, as shown by the following analysis of some 5000 tons shipped, is quite similar to that in the north.

	Percent
Cr ₂ O ₃	53.15
Fe O	14.96
Mg O	15.75
Al ₂ O ₃	13.95
Ca O	Trace
Mn O	0.12
Ni O	0.24
SO ₃	Trace
SiO ₂	1.65
Ci:Fe	3.11:1

- (d) This area could also produce about 3,000 tons per month with the 300 men and under present conditions and could materially increase this rate with some direction and mechanization.

Available on loan from CIA Map Library are:

1. Photostat and white print of Road Map of Iran by the government of Iran, the Ministry of Health, Public Health Cooperative Organization, Sanitary Engineering Services Division Central Office, scale 1:2,000,000 showing chrome areas.
2. Photostat and white print Area 2, Abbassabad Area
Map of Iran, Jajarm sheet, J-40-U, scale 1:253,440.
3. Photostat and white print of Area 3, Abbassabad Area
Map of Iran, Sabzavar sheet, J-40-V, scale 1:253,440.

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1-12/732.06	5K
6/732.06	5K
2-12/732.06	5K
4-10/732.06	5K
2-5/732.06	5K
5-11/732.06	5K
10-11/732.06	5K

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